Louisiana   **Grade 8**

<table>
<tr><td colspan="2" align="center"><i>FlyBy Math</i>^{TM} Alignment
Mathematics Grade-Level Expectations</td></tr>
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Number and Number Relations

Grade-Level Expectations	*FlyBy Math*^{TM} Activities
7. Use proportional reasoning to model and solve real-life problems (N-8-M)	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
9. Find unit/cost rates and apply them in real-life problems (N-8-M) (N-5-M) (A-5-M)	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Algebra

Grade-Level Expectations	*FlyBy Math*^{TM} Activities
11. Translate real-life situations that can be modeled by linear or exponential relationships to algebraic expressions, equations, and inequalities (A-1-M) (A-4-M) (A-5-M)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
13. Switch between functions represented as tables, equations, graphs, and verbal representations, with and without technology (A-3-M) (P-2-M) (A-4-M)	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
14. Construct a table of x- and y-values satisfying a linear equation and construct a graph of the line on the coordinate plane (A-3-M) (A-2-M)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.
15. Describe and compare situations with constant or varying rates of change (A-4-M)	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.
16. Explain and formulate generalizations about how a change in one variable results in a change in another variable (A-4-M)	--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system. --Interpret the slope of a line in the context of a distance-rate-time problem.

Measurement

Grade-Level Expectations	*FlyBy Math*™ Activities
18. Apply rate of change in real-life problems, including density, velocity, and international monetary conversions (M-1-M) (N-8-M) (M-6-M)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Interpret the slope of a line in the context of a distance-rate-time problem.

Geometry

Grade-Level Expectations	*FlyBy Math*™ Activities
30. Construct, interpret, and use scale drawings in real-life situations (G-5-M) (M-6-M) (N-8-M)	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes. --Apply mathematics to predict and analyze aircraft conflicts and validate through experimentation.
33. Graph solutions to real-life problems on the coordinate plane (G-6-M)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.

Data Analysis, Probability, and Discrete Math

Grade-Level Expectations	*FlyBy Math*™ Activities
34. Determine what kind of data display is appropriate for a given situation (D-1-M)	--Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
39. Analyze and make predictions from discovered data patterns (D-2-M)	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Patterns, Relations, and Functions

Grade-Level Expectations	*FlyBy Math*™ Activities
46. Distinguish between and explain when real-life numerical patterns are linear/arithmetic (i.e., grows by addition) or exponential/geometric (i.e., grows by multiplication) (P-1-M) (P-4-M)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.